

## REDUPLICATION OF SOME CHINESE ADJECTIVES

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### Abstract

This study compares the reduplicative constructions of some adjectives in two Chinese languages—Mandarin (Md) and Taiwanese (Tw). The three types of adjectives studied are color terms, size terms, and shape terms. Although some grammarians claim that, in Mandarin, there does not appear to be any rule governing which adjectives can be reduplicated and which ones cannot, it is found that, at least for the adjectives examined in this study, terms with higher text frequencies tend to have greater possibilities to be reduplicated and to obtain more marked reduplication forms. In addition, this study demonstrates that an intensive comparison between Md and Tw reduplicative constructions not only can reveal the similarities and differences in their forms and functions, but can also uncover an ongoing diachronic change in Chinese color term system.

### Introduction

Mandarin (Md) and Taiwanese (Tw) are the two major varieties of Chinese spoken in Taiwan, both are abundant in reduplicative constructions. However, although we can find some good descriptions of reduplication in either language (e.g., Cheng, 1966, Chao, 1968, Liu, 1980, Cheng, 1981), cross-linguistic studies comparing this linguistic construction in the two languages seem to be rare. The first objective of this study is therefore to provide a cross-linguistic comparison between Md and Tw reduplicatives, focusing specifically on the reduplication of three types of adjectives -- terms used to describe color, size, and shape of physical objects.

In addition, although some grammarians (e.g., Chao, 1968, Li & Thompson, 1981) claimed that in Mandarin, there is no rule governing which adjectives can be reduplicated and which ones cannot, according to my native intuition, it seems that there might be a correlation between text frequency and reduplication. The second objective of this study is thus to examine whether there is a correlation between reduplication and text frequency. The sources used in this study were two grammar books (Chao, 1968, Li & Thompson, 1981), several dictionaries (Liu et al, 1975, Liu et al, 1987, Xia Men Da Xue, 1982), and the data collected from ten native Mandarin and Taiwanese speakers in Ann Arbor area.

### Some General Remarks on Reduplication

In general, there are two types of reduplicative construction in the world's languages -- total reduplication and partial reduplication (Moravcsik, 1978). In total reduplication, the material reduplicated can be a whole morpheme or a whole word. In partial reduplication, the material reduplicated can be a syllable, or, simply a consonant or a vowel which does not form any particular constituent (i.e. syllable or morpheme, etc.). In addition, the reduplication can take place to the left of the root, as a prefix, to the right, as a suffix, or inside the root, as an

infix (Chao, 1968, Bloomfield, 1933, p. 218). So far as the semantic aspect of reduplication is concerned, there seems to be some iconicity between reduplicated forms and their meanings in the world's languages. Reduplicated forms tend to denote plurality, long duration, intensity, vivification, or repetition, whereas original forms denote a quality or state without such a feature (Key, 1965).

### Reduplication in Mandarin and Taiwanese

#### Forms

Most reduplicative constructions in these two languages are in the form of total reduplication which follows the original form. The forms used in the reduplication of the three types of adjectives are found as the following:

- X---original form (single morpheme/syllable)
- XX---reduplicated form of X
- XXX---triplication form of X
- XY---original form (two morphemes/syllables)
- XYXY---reduplicated form of XY  
(direct repetition of XY)
- XXYY---another reduplication form for XY  
(repeat the first morpheme, then repeat the second one)
- XYZ---original form (three morphemes/syllables, XYZ is a compound)
- XYZXYZ---direct repetition of XYZ
- XZZ---X followed by a reduplicated vivifying or intensifying bound morpheme
- XYXZ---XYZ is a phrase, X is the modifier

For examples

- (Taiwanese)
- 1 X---*beh* "white"
  - XX---*beh-beh* "somewhat white"
  - XXX---*beh-beh-beh* "very white"
  - 2 XY---*beh-sik* "white color"
  - XYXY---*beh-sik-beh-sik* "somewhat white"
  - 3 XZZ---*beh-siak-siak* "shining snow white"
  - 4 XYZ---*gio-a-sik* "purple color"
  - XYZXYZ---*gio-a-sik-gio-a-sik* "somewhat purple"
  - 5 XY---*su-hng* "square"
  - XXYY---*su-su-hng-hng* "somewhat square"
  - 6 XYZ---*sio-wun-hui* "small favor"
  - XYXZ---*sio-wun-sio-hui* "small favor"
- (Mandarin)
- 7 X---*bai* "white"
  - XX---*bai-bai-(de)* "somewhat white"
  - 8 XY---*ka-fei* "brown"
  - XYXY---*ka-fei-ka-fei-(de)* "somewhat brown"
  - 9 XZZ---*bai-meng-meng* "very white" (used to describe fog and smoke)
  - 10 XY---*zheng-fang* "square"
  - XXYY---*zheng-zheng-fang-fang* "very square"
  - 11 XYZ---*xiao-shou-jiao* "small hands and small feet"
  - XYXZ---*xiao-shou-xiao-jiao* "small hands and small feet" (used to describe a cute child)

Color terms

As we can see from Tables 1-3, for color term reduplication, the forms shared by Md and Tw are XX and XZZ. We can also find that XXX and XYZXYZ forms only occur in Tw, that is, only Tw has the triplication form of monosyllable words and the reduplication form of three-syllable words (or compounds).

Table 1 Color -- White (Reduplication Forms)

WHITE	Mandarin	Taiwanese
X	bai 'white'	beh 'white'
XX	<u>bai-bai</u> -de 'somewhat white'	<u>beh-beh</u> 'somewhat white'
XXX	----	<u>beh-beh-beh</u> 'very very white'
XY	bai-se 'white <u>color</u> '	beh-sik 'white <u>color</u> '
XXXY	----	<u>beh-sik-beh-sik</u> 'somewhat white'
XZZ	bai-hua-hua 'very white' (money or silver)	beh-siak-siak 'shining snow white' (silver)
	bai-huang-huang 'very white and shining'	beh-sud-sud 'very white' (objects)
	bai-mang-mang 'very white' 'fog, smoke'	beh-phong-phong 'very white' (cotton)
	bai-meng-meng 'very white' 'fog, smoke'	beh-bhong-bhong 'very white' (smoke)
	bai-ai-ai 'very white' (snow)	beh-pau-pau 'very white' (skin)
		beh-chang-chang 'very pale' (face)

Table 2 Color -- Purple (Reduplication Forms)

PURPLE	Mandarin	Taiwanese
X	zi 'purple'	zi 'purple'
XX	----	----
XXX	----	----
XY	zi-se 'purple <u>color</u> '	zi-se 'purple color'
XXXY	----	----
XYZ	----	gio-a-sik 'eggplant color'
XYZXYZ	----	gio-a-sik-gio-a-sik 'somewhat purple'

Table 3 Color -- Brown (Reduplication Forms)

BROWN	Mandarin	Taiwanese
X	zong 'brown'	zang 'brown' (less common)
XX	----	----
XXX	----	----
XYZ	ka-fei-se 'brown <u>color</u> ' (more commonly used)	ga-bi-sik 'brown <u>color</u> ' (more commonly used)
XXXY	ka-fei-ka-fei 'somewhat brown'	ga-bi-ga-bi 'somewhat brown'
XYZXYZ	----	ga-bi-sik-ga-bi-sik 'somewhat brown'

XZZ is the reduplication form with the color name followed by the repetition of a bound vivifying morpheme. Different XZZ forms are used to modify different kinds of nouns in both

languages (c f Table 1) In addition, although some of the XZZ forms in Tw are direct translations from Md (e g *bai-mang-mang* (Md) "very white" (fog, air, or smoke) ----> *beh-bong-bong* (Tw) "very white (fog, air or smoke)", most of them are not parallel pairs

The other form XYXY, although does occur in Md for brown color (Table 3), is mainly used in Tw The prevalence of XYXY form in Tw color term reduplication is due to the fact that Tw allows the reduplication of color name + the word 'color' (e g *beh-sik* "white color" --> *beh-sik-beh-sik* "somewhat white") In contrast, Md does not allow this kind of reduplication The only one XYXY form in Md is found in the term used to denote brown color, this is because brown color is commonly called as "*ka-fei-se*" in Md, and even we do not reduplicate the word "color", we still have two syllables for the word *ka-fei* "brown" (the original meaning is "coffee") The XYXY construction in Md is thus different from that in Tw For Taiwanese color terms, XYXY form is more productive (for one-syllable color terms), while in Mandarin, it occurs only with *ka-fei*

#### size terms

For size terms, only the words *da/dua* "big" and *xiao/sue (sio)* "small" can be reduplicated in both Md and Tw (Tables 4 and 5) The forms shared by both languages are XX, XXXY, and XYXZ As is found in the reduplication of color terms, the triplication XXX form only occurs in Tw (for the triplication of "big" and "small") In addition, the word *diong* "medium", although can be reduplicated in Tw, cannot be triplicated in the same language

Table 4 Size-1

Medium	Mandarin	Taiwanese
X	zhong 'medium'	diong 'medium'
XX	-----	diong-diong 'somewhat medium'

Table 5 Size-2

BIG	Mandarin	Taiwanese
X	da 'big'	dua (or dai) 'big'
XX	da-da-(-de) 'somewhat big'	dua-dua 'somewhat big'
XXX	-----	dua-dua-dua 'very big'
XXYY	da-da-xiao-xiao '(the big and the small) everything, the whole family'	dua-dua-sue-sue '(the big and the small) everything, the whole family'
XYXZ	da-da-fang-fang 'elegant and composed' da-mo-da-yang 'with full composure, da-yao-da-bai 'to walk haughtily' da-yue-da-rou 'abundant fish and meat'	dai-dai-hng-hng 'elegant and composed' dai-bboo-dai-yuu 'with full composure, dua-yo-dua-bai 'to walk haughtily' dua-hi-dua-bbah 'abundant fish and meat'
	(more)	(more)

#### shape terms

For shape term reduplication, only *yuan/yni* "round" and *fang/hng* "square" have reduplicated forms in both languages (Tables 6-8) The term "triangle" can be reduplicated only

in Tw The reduplication forms shared by Md and Tw are XX, XXYY, and XZZ. Again, XXX form only occurs in Tw. XYXY form also occurs only in Tw for the terms "square" and "triangle"

In Tw, "square" is more commonly expressed in the two-syllable words--*znia-hng*, *su-hng*, or *si-gak*, rather than in the monosyllable word--*hng*. Directly repeating XY, we obtain the XYXY form in *si-gak-si-gak* "somewhat square". This is why XX form, although is commonly used in the reduplicative constructions which we have already discussed, does not occur for "square" in Tw.

Table 6 Shape-1

SQUARE	Mandarin	Taiwanese
X	fang 'square'	hng 'square'
XX	fang-fang(-de) 'somewhat square'	----
XY	zheng-fang 'square'	znia-hng 'square'
	si-fang 'square'	su-hng 'square'
	si-jiao 'square'	si-gak
XXYY	si-si-fang-fang 'very square'	su-su-hng-hng 'very square'
	fang-fang-zheng-zheng 'very square'	hng-hng-zina-zina 'very square'
		si-si-gak-gak 'very square'
XYXY	----	si-gak-si-gak 'very square'

Table 7 Shape-2

ROUND	Mandarin	Taiwanese
X	yuan 'round'	yni 'round'
XX	yuan-yuan(-de) 'somewhat round'	yni-yni 'somewhat round'
XXX	----	yni-yni-yni 'very round'
XXYY	yuan-yuan-gun-gun '(vividly) very round'	----
	yuan-yuan-man-man 'rounded out, satisfactory, complete'	
XZZ	yuan-gun-gun '(vividly) very round'	yni-len-len '(vividly) very round'
		yni-gun-gun '(vividly) very round'

Table 8 Shape-3

TRIANGLE	Mandarin	Taiwanese
XY	san-jiao 'triangle'	sna-gak 'triangle'
XYXY	----	sna-gak-sna-gak 'somewhat triangular'

#### Summary -- forms

In sum, the forms shared by Md and Tw in the reduplication of these three types of adjectives are as follows  
color terms---XX, XYXY(mostly occurs in Tw), and XZZ

size terms---XX, XXYY, XYXZ

shape terms---XX, XXYY, XZZ

And the forms which occur only in Tw are as follows

color terms---XXX, XYZXYZ

size terms---XXX

shape terms---XXX, XYXY

We can see that different types of adjectives have different varieties of reduplication forms. And in general, Tw has more varieties of reduplication forms. All types of reduplication forms which occur in Md also occur in Tw. On the other hand, there are two forms in Tw which do not occur in Md--the triplication form of monosyllable words (i.e. XXX) and the direct reduplication form of three-syllable words (i.e. XYZXYZ) found in color term reduplication.

Comparing the different reduplication forms of these three types of adjectives, we find that simple reduplication (i.e. direct repetition of the original form) is the most basic ones because they occur in all three types of adjectives in both languages. Thus, in the remainder of this paper, I will call these simple reduplication forms as the unmarked forms, and all other forms will be regarded as relatively more marked.

### Meanings

As shown in Table 9, the main function of these forms is vivification. In addition, in both languages, reduplication can sometimes attenuate degree of expressions, while sometimes intensify degree of expressions, depending on which forms are used. In both languages, when the unmarked reduplication forms (XX, XYXY, XYZXYZ) are used, the degree of the expression is attenuated. But, when the more marked XZZ or XXYY forms are used, the degree of the expression tends to be intensified. In Taiwanese when the triplication form is used, the degree of the expression is intensified even more.

Table 9 Meanings of the Reduplication Forms

	Mandarin	Taiwanese
X, XY, XYZ	original meaning	original meaning
XX	attenuation & vivification	attenuation & vivification
XYXY(color)	(attenuation & vivification)	attenuation & vivification
XYZXYZ(color)----		attenuation & vivification
XXX	----	intensification & vivification
XXYY(shape)	intensification & vivification	intensification & vivification
XXYY(size)	distribution or vivification	distribution or vivification
XZZ	intensification & vivification	intensification & vivification
XYXZ	vivification	vivification

Moreover, in both languages, the same reduplication form may have different meanings when used with different types of adjectives. For example, XXYY form when used for shape terms represents the intensification of the expression.

shape	su-su-hng-hng (Tw)
(intensification)	si-si-fang-fang (Md)

four-four-square-square  
"very square"

However, when it is used for size terms, it denotes distributive meaning

size  
(distribution)      dua-dua-sue-sue (Tw)  
da-da-xiao-xiao (Md)  
big-big-small-small  
'from big to small—everything, everyone in a family'

In general, the major difference in the semantic aspects between Tw and Md reduplicative constructions is that while there are four degrees of tensify in Tw adjectival expressions, there are only three in Md

Table 10 Levels of Intensification

	Md	Tw
X, XY	original	original
XXYY	more intensified	more intensified
XZZ	more intensified	more intensified
XXX	----	much more intensified

### Text Frequency and Reduplication

As mentioned in the beginning of this paper, some grammarians claimed that in Mandarin, there was no rule governing which adjectives could be reduplicated and which ones could not. This section presents the correlation found in this study between text frequency and reduplication. Since Tw is still largely only a spoken language, it is difficult to find written data in Tw. Thus the language investigated in this section is mainly Md, Taiwanese data are used only when supplementary explanations are needed.

Two word count dictionaries (Liu et al, 1987, Liu et al, 1975) were used to set the frequency orders. The first one was edited in Mainland China, the number of words counted was 7 million (but the number of characters counted is over 20 million). The other one was edited in Taiwan, the number of words counted is 1 million. Both dictionaries covered a large varieties of materials, including novels, magazines, newspapers, non-fictions, textbooks, and children's story books. The frequency hierarchies found for the three sets of adjectives are as follows.

#### 1 Shape Terms

*yuán* > *fāng* > *sān-jiao* > *tuō-yuán* > *cháng-fāng* > *lín-xing*  
 round > square > triangle > ellipse > rectangle > rhombus  
 5017 > 4983 > 2382 > 263 > 226 > 163

#### 2 Size Terms

*zhōng* > *dà* > *xiǎo* > *jū* > *shǒu* > *mí-nu* > *xiū-zhēn*  
 medium > big > small > enormous > very big > mini > small & delicate  
 82047 > 34313 > 21361 > 437 > 15 > 2 > 0

#### 3 Color Terms

*bai* > *hong* > *huang* > *he* > *hui* > *lan* > *zi* > *zong* > *ju* > *lu* > *fen-hong*  
 white > red > yellow > black > gray > blue > purple > brown > orange > green > pink  
 4900 > 3733 > 3390 > 3221 > 1214 > 1032 > 551 > 255 > 241 > 173 > 93

Compare these frequency hierarchies with the distributions of the reduplication forms of the three sets of adjectives as shown in Tables 11-13

Table 11 Shape Terms (Distribution of the Reduplication Forms)

Mandarin					Taiwanese				
	round	square	triangular	others		round	square	triangular	others
XX	+	+	-	-	XX	+	-	-	-
XXYY	-	-	-	-	XXYY	-	+	+	-
XXYY	+	+	-	-	XXYY	+	+	-	-
XZZ	+	-	-	-	XZZ	+	-	-	-
XXX	-	-	-	-	XXX	+	-	-	-
	3	2	0	0		4	2	1	0

Table 12 Size Terms (Distribution of the Reduplication Forms)

Mandarin					Taiwanese				
	big	small	medium	others		big	small	medium	others
XX	+	+	-	-	XX	+	+	-	-
XXYY	+	+	-	-	XXYY	+	+	-	-
XYXZ	+	+	-	-	XYXZ	+	+	-	-
XXX	-	-	-	-	XXX	+	+	+	-
	3	3	0	0		4	4	1	0

Table 13 Color Terms (Distribution of the Reduplication Forms)

	white	red	yellow	black	gray	blue	purple	brown	orange	green	pink
XX	+	+	+	+	+	+	-	-	-	+	-
XXYY	-	-	-	-	-	-	-	+	-	-	-
XZZ	+	+	+	+	+	-	-	-	-	+	-
	2	2	2	2	2	1	0	1	0	2	0

We can see that there is a big drop in numbers between *san-jiao* "triangular" and *luo-yuan* "ellipse", between *xiao* "small" and *ju* "enormous", and between *lan* "blue" and *zi* "purple" in



the frequency hierarchies. At the same time, we also find that almost all the terms in the positions on the left hand side of *san-jiao* "triangular", *xiao* "small" and *lan* "blue" obtain at least one reduplication form, whereas the terms in the positions on their right hand side cannot be reduplicated at all in either language with only two exceptions -- the color terms "brown" and "green". We will put these exceptions aside at the moment.

In general, Tables 11-13 show that there is a strong tendency that the more frequent a term is, the more varieties of reduplication forms it can obtain. In other words, it is more possible for terms with higher text frequencies to obtain more marked reduplication forms.

At this point, the reader probably have already noticed that *Zhong*, the term for "medium size", although has the highest text frequency among the size terms, cannot be reduplicated in Md (as shown in Table 12). Also, one probably would also ask why it has less varieties of reduplication forms than the terms "big" and "small" in Tw. At first sight, it seems that we have a counterexample here. However, this counterexample can be easily explained in terms of meaning overlapping. In addition to referring to "medium size", *zhong* also has the following meanings -- "China", "in the middle of", "during", "between", "medium height" and "medium degree". As the reader might notice, these are all very common expressions. It is therefore reasonable to assume that the text frequency of the word *zhong* when used to refer to "medium size" might fall between "small" and "enormous", and hence cannot be counted as an counterexample against my claim.

#### A Change in Progress in Color Term System

Now, let's return to the two exceptions revealed previously -- the cases of color terms "brown" and "green". If we scrutinize the distribution of the reduplication forms shown in Table 13, and again, if we put the term "brown" aside, we find that for the realization of the XX form, there is a gap between *lan* "blue" and *lu* "green", for XZZ form, there is a gap between *hui* "gray" and *lu* "green". In addition, compare the Chinese color term frequency hierarchy with the universal hierarchy of basic color terms proposed by Berlin and Kay (1969).

##### Berlin and Kay's (1969) Universal Color Hierarchy

white/black > red > yellow/green > green/yellow > blue

##### Chinese Color Hierarchy -- based on text frequency

white > red > yellow > black > gray > blue > purple > brown > orange > green > pink

we find that the position of *lu* "green" in Mandarin is rather unusual, and that the positions of *hong* "red", *huang* "yellow", *he* "black" and *lan* "blue" are also different from those predicted by Berlin and Kay.

Although, *hong* "red" and *huang* "yellow" have higher text frequencies than *he* "black" does, it is interesting that we can easily find many expressions in the more marked XZZ form for the term "black", on the other hand, we must try very hard to find expressions in this form for *hong* "red" and *huang* "yellow", yet still cannot obtain that many. We might thus argue that, underlyingly or biologically, the color "black" is still a more unmarked color than the colors "red" and "yellow" for Chinese people, but cultural factors force a change of the markedness status of the color "black". In Chinese culture, "red" is a very favorite color, it represents good luck, joy, and happiness. "Yellow", the color for the emperors in ancient times, represents good luck and respect. In contrast, "black" is a taboo color in Chinese

culture, it represents misfortune. The lower text frequency of *he* "black" might be because Chinese people try to avoid using it.

So far as the unusual position of the color "green" in the frequency hierarchy, at first, this was indeed a puzzle to me. Why does *lu* "green" obtain the marked XZZ form but have such low text frequency? (Recall that we pointed out earlier that only the frequently used terms can have more marked reduplication forms.) Since Taiwanese has long been regarded as an older Chinese dialect which has undergone fewer diachronic changes than modern Mandarin, let us see whether we could find the answer from Taiwanese reduplicative constructions.

As a native Taiwanese speaker, for me, "green" and "blue" colors are both represented by the same word *cni* in Taiwanese. I suspected that the issue in hand might be related to this. Therefore, I asked five native Taiwanese speakers what color term is used to denote "green". All of them answered *cni*, translating it into Mandarin, it is *qing*, not *lu*. It is interesting because we do have a specific word for *lu* "green" in Taiwanese--*lik*. But why did these native speakers answer *cni* instead of *lik*? Further, when I asked these native speakers what is the color name for "blue", some of them still answered *cni*, while the others answered *lna* (*lan* in Mandarin). We see here, for some native Taiwanese speakers, no distinction is made between the colors green and blue, *cni* is used as the cover term for both colors. On the other hand, for the other speakers, a distinction has been made between these two colors. However, the distinction made is *cni* vs *lna* "blue" rather than *lik* "green" vs *lna* "blue".

If we examine the distribution of the reduplication forms in Taiwanese (as shown in Tables 14 to 17 on the following page), we can find an even more interesting phenomenon--only *cni* obtains both unmarked XX form and marked XZZ form as well as the marked triplication form, in contrast, *lna* "blue" has only the unmarked XX and XYXY forms, and *lik* does not have any reduplication form. Moreover, as can be seen in Table 15, some expressions in XZZ form under *cni* denote "blue", some refer to "green" while the others both colors.

Since among these three terms (*cni*, *lan* and *lik*), *cni* is the one used most frequently and best developed in Taiwanese reduplicative constructions, and it is the neutralization form for *lna* "blue" and *lik* "green", we could argue that historically Taiwanese speakers did not have the distinction between the colors blue and green, *cni* was used to denote both colors. Although at the current stage, this still remains the same for some native speakers, all the evidence just mentioned lead us to the conclusion that Taiwanese is now in a stage of acquiring the distinction between the colors green and blue. *Lna* "blue" has begun splitting away from the word *cni* earlier than *lik* "green" because it has already obtained the unmarked XX reduplication form while *lik* "green" still does not have any and is still rarely used (most native speakers still use *cni* to refer to the color green). Following this line of argument, it seems that the Taiwanese reduplicative data under the categories of *cni*, *lna* "blue", and *lik* "green" still confirm my claim regarding the correlation between text frequency and reduplication. Compared with *cni*, *lna* "blue" and *lik* "green" occur less often, and they also have less varieties of reduplication forms in Taiwanese.

Let us now return to the Mandarin color terms. When asked what color the term *qing* denotes, all of the ten native speaking subjects answered "green", some of them even did not know that *qing* can also be used to refer to the color blue. Here we see an even further development of the distinction between the colors green and blue with *qing* and *lu* more fixedly denoting the color green and *lan* denoting the color blue. Actually almost every native Mandarin speaker that I know makes clear distinction between the colors green and blue.

Table 14 Text Frequency and Reduplication (Taiwanese)

	white	red	yellow	black	cni	gray	blue	purple	brown	orange	green	pink
XX	+	+	+	+	+	+	+	-	-	-	-	-
XYXY	+	+	+	+	+	+	+	-	+	-	-	+
XYZXYZ	-	-	-	-	-	+	-	+	+	+	-	+
XZZ	+	+	+	+	+	-	-	-	-	-	-	-
XXX	+	+	+	+	+	-	-	-	-	-	-	-
	4	4	4	4	4	3	2	1	2	1	0	2

Table 15 Color-Qing (Reduplication Forms)

'QING' (cni)	Mandarin	Taiwanese
X	qing 'green/blue'	cni 'green/blue'
XX	qing-qing-de 'somewhat green/blue'	cni-cni 'somewhat green/blue'
XY	qing-se 'green/blue color'	cni-sik 'green/blue color'
XYXY	-----	cni-sik-cni-sik 'somewhat green/blue'
XZZ	-----	cni-lang-lang 'very dark blue'
		cni-ling-ling 'very crystal green'
		cni-bian-bian 'very heavy blue/green'
		cni-sun-sun 'sick blue/green' (face)
		cni-yua-yua 'very bright blue'
		cni-jing-jing 'very fresh green'
XXX	-----	cni-cni-cni 'very green/blue'

Table 16 Color- Green (Reduplication Forms)

GREEN	Mandarin	Taiwanese
X	lu 'green'	lik 'green'
XX	lu-lu-de 'somewhat green'	-----
XY	lu-se 'green color'	lik-sik 'green color'
XYXY	-----	-----
XZZ	lu-rong-rong 'very green' (grass)	-----
	lu-you-you 'very green' (grass or rice)	-----
XXX	-----	-----

Table 17 Color-Blue (Reduplication Forms)

BLUE	Mandarin	Taiwanese
X	lan 'blue'	lna 'blue'
XX	lan-lan-de 'somewhat green'	lna-lna 'somewhat blue'
XY	lan-se 'blue color'	lna-sik 'blue color'
XYXY	-----	lna-sik-lna-sik 'somewhat blue'
XZZ	-----	-----
XXX	-----	-----

An even more interesting phenomenon here is that while all the expressions in XZZ form for "green" and "blue" are represented by *cu* in Taiwanese, we find no XZZ form for *qing* in Mandarin. In Mandarin, among *lu* "green", *lan* "blue", and *qing*, only *lu* "green" has the marked XZZ form. In fact, this can be considered as an evidence of a clear transition—*qing*, although is still used very often as a modifier of nouns (denoting mostly the color green), is now surrendering its more unmarked position to *lu* "green" in Mandarin. And, the different distributions of the reduplication forms for these three color terms between Md and Tw reveal that Taiwanese is still in an earlier stage of the change in progress while Mandarin is in a later stage of the same process. Further, since the low text frequency of *lu* "green" in Mandarin can be explained by the fact that it has been undergoing a split process from the word *qing*, it cannot be considered as a counterexample against my previous claim regarding the correlation between text frequency and reduplication.

To conclude, although some grammarians claimed that in Mandarin, there was no rule governing which adjectives can be reduplicated and which ones could not, it is found in this study that, at least for the three types of adjectives examined, the terms with higher text frequency have higher possibility to be reduplicated. This study also demonstrates that an intensive comparison between Taiwanese and Mandarin reduplicative constructions can lead us go beyond the level of a simple form-function comparison. In addition to the similarities and differences between the two languages in the synchronic structures of this linguistic construction, without any materials from areas such as historical linguistics, it can also lead us to discover a diachronic change in color term system that both languages have been undergoing.

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